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| APPLICATION NO.           | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.   | CONFIRMATION NO. |
|---------------------------|-------------|----------------------|-----------------------|------------------|
| 09/845,356                | 05/01/2001  | Masayuki Mishima     | Q64324                | 2603             |
| 65565                     | 7590        | 07/21/2009           | EXAMINER              |                  |
| SUGHRUE-265550            |             |                      | YAMNITZKY, MARIE ROSE |                  |
| 2100 PENNSYLVANIA AVE. NW |             |                      | ART UNIT              |                  |
| WASHINGTON, DC 20037-3213 |             |                      | PAPER NUMBER          |                  |
|                           |             |                      | 1794                  |                  |
|                           |             |                      | MAIL DATE             |                  |
|                           |             |                      | DELIVERY MODE         |                  |
|                           |             |                      | 07/21/2009            |                  |
|                           |             |                      | PAPER                 |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

09/845,356

**Applicant(s)**

MISHIMA, MASAYUKI

**Examiner**

Marie R. Yamnitzky

**Art Unit**

1794

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 May 2009 and 24 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 29, 33-35, 44 and 48-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 29, 33-35, 44, 49 and 50 is/are rejected.
- 7) ☒ Claim(s) 48 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on May 12, 2009 and June 24, 2009 have been entered.

2. Applicant's amendment filed May 12, 2009 amends the specification.

Applicant's amendment filed June 24, 2009 amends claims 29 and 44, and cancels claim 40.

Claims 29, 33-35, 44 and 48-50 are pending.

3. The Rule 132 Declarations of Masayuki Mishima filed May 12, 2009 and June 24, 2009 have been considered.

4. The rejection of claims 29, 33-35, 40, 44 and 48-50 (the limitations of claim 40 now incorporated into claim 29) under 35 U.S.C. 103(a) as unpatentable over Forrest et al. in view of Egusa et al. and Igarashi et al. is withdrawn, as is the rejection of claims 29, 33-35, 40, 44 and 48-50 as unpatentable over Baldo et al. in view of Egusa et al. and Igarashi et al., in light of the statement of common ownership set forth in applicant's Remarks filed June 24, 2009. Separately, these rejections are also withdrawn in consideration of the totality of the data of

record, including the data set forth in the application as originally filed and the various Rule 132 declarations which have been filed.

The rejection of claim 44 under 35 U.S.C. 103(a) as unpatentable over Forrest et al. in view of Egusa et al. and Thompson et al. is withdrawn, as is the rejection of claim 44 as unpatentable over Baldo et al. in view of Egusa et al. and Thompson et al. As noted during the personal interview on May 29, 2009, the Thompson et al. reference should not have been applied against claim 44.

The rejection of claims 29, 33-35, 40 and 48-50 (the limitations of claim 40 now incorporated into claim 29) under 35 U.S.C. 103(a) as unpatentable over Forrest et al. in view of Egusa et al. and Thompson et al. is withdrawn, as is the rejection of claims 29, 33-35, 40 and 48-50 as unpatentable over Baldo et al. in view of Egusa et al. and Thompson et al., in consideration of the totality of the data of record, including the data set forth in the application as originally filed and the various Rule 132 declarations which have been filed.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 29, 33-35, 44 and 50 are rejected under 35 U.S.C. 102(e) as being anticipated by Hirai (US 2001/0028962 A1).

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

In view of dependent claim 49, “a light-emitting layer” and “the light-emitting layer” as recited in claim 29 may be more than one light-emitting layer, and the red, green and blue light-emitting materials need not all be present in the same light-emitting layer. Claim 29 also does not explicitly limit the location of the light-emitting layer(s) relative to the anode and the cathode. Accordingly, the white light-emitting device of Hirai’s Example 5 meets the limitations of a light-emitting device according to present claims 29, 33-35, 44 and 50. Hirai’s device of Example 5 comprises an anode, a cathode, a light-emitting layer comprising a blue light-emitting material and having a peak emission wavelength of 415 nm, and a light-emitting layer (the color-converting film) that comprises bis(2-phenylpyridine)acetylacetone iridium complex and bis(2-phenylquinoline)acetylacetone iridium complex. Bis(2-phenylpyridine)acetylacetone iridium complex is a green light-emitting material within the scope of the green light-emitting material required for each of the present claims, and bis(2-phenylquinoline)acetylacetone iridium complex is a red light-emitting material within the scope of the red light-emitting material required for each of the present claims.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 29, 33-35, 49 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. (US 2002/0034656 A1).

Thompson et al. disclose various orthometallated iridium complexes that are green light-emitting materials and that are 2-phenylpyridine derivatives (e.g. see Fig. 17, Fig. 18, Fig. 29 and paragraph [0059]) and various orthometallated iridium complexes that are red light-emitting materials (e.g. see Fig. 31, Fig. 37 and Fig. 43).

In the background of the invention, Thompson et al. describe stacked OLED (SOLED) structures in which red, green and blue pixels are stacked upon each other between a pair of electrodes. There are additional electrode layers between the different light-emitting layers, but the present claim language is open and does not exclude one or more intervening layers between different light-emitting layers when the light-emitting layer comprises more than one different light-emitting layer as per present claim 49.

Thompson et al. do not provide a specific example of a stacked OLED in which the red and green pixels comprise orthometallated iridium complexes, but it would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to utilize Thompson's orthometallated complexes to provide one or more of the pixels of a stacked OLED since

Thompson's complexes are intended for use in OLED structures. One of ordinary skill in the art at the time of the invention would have reasonably expected that Thompson's orthometallated complexes that are green light-emitting materials would be suitable for use in the green pixel of a stacked OLED, and that Thompson's orthometallated complexes that are red light-emitting materials would be suitable for use in the red pixel of a stacked OLED.

Thompson's published application claims priority of several prior non-provisional applications. The referenced portions of Thompson's published application find support at least in Thompson's priority application No. 09/452,346, filed December 01, 1999.

9. This Office action contains new grounds of rejection. The data set forth in the application as originally filed and in the Rule 132 declarations have been taken into consideration when making the new rejections.

The data demonstrate unexpectedly superior results with respect to devices having a single light-emitting layer disposed between a pair of electrodes wherein the single light-emitting layer comprises red, green and blue light-emitting materials as described in present claim 1. The data also demonstrate unexpectedly superior results with respect to devices having a light-emitting layer disposed between a pair of electrodes wherein the light-emitting layer is subdivided into three adjacent light-emitting layers that are stacked upon each other, wherein each of the three adjacent light-emitting layers comprise one of the red, green and blue light-emitting materials as described in present claim 1.

However, in view of dependent claim 49, “a light-emitting layer” and “the light-emitting layer” as recited in claim 29 is not limited to a single light-emitting layer comprising all three light-emitting materials required by claim 29. When the light-emitting layer comprises more than one different light-emitting layer (as in claim 49), the different light-emitting layers are not required to be adjacent and stacked upon each other. Claim 29 also does not explicitly require the light-emitting layer to be disposed between the anode and the cathode. Even if the claim language were to require the light-emitting layer to be disposed between the anode and the cathode, the open claim language does not exclude additional electrodes disposed between different light-emitting layers when the light-emitting layer comprises more than one different light-emitting layer as per claim 49 (such as would be present in a stacked OLED as described by Thompson et al.).

10. Claim 48 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (571) 272-1531. The examiner works a flexible schedule but can generally be reached at this number from 7:00 a.m. to 3:30 p.m. Monday and Wednesday-Friday.



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The current fax number for all official faxes is (571) 273-8300. (Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (571) 273-1531.)

/Marie R. Yamnitzky/  
Primary Examiner, Art Unit 1794

MRY  
July 19, 2009